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Art and design during and after the Covid-19 Period

BİLDİRİLER KİTABI / PROCEEDINGS

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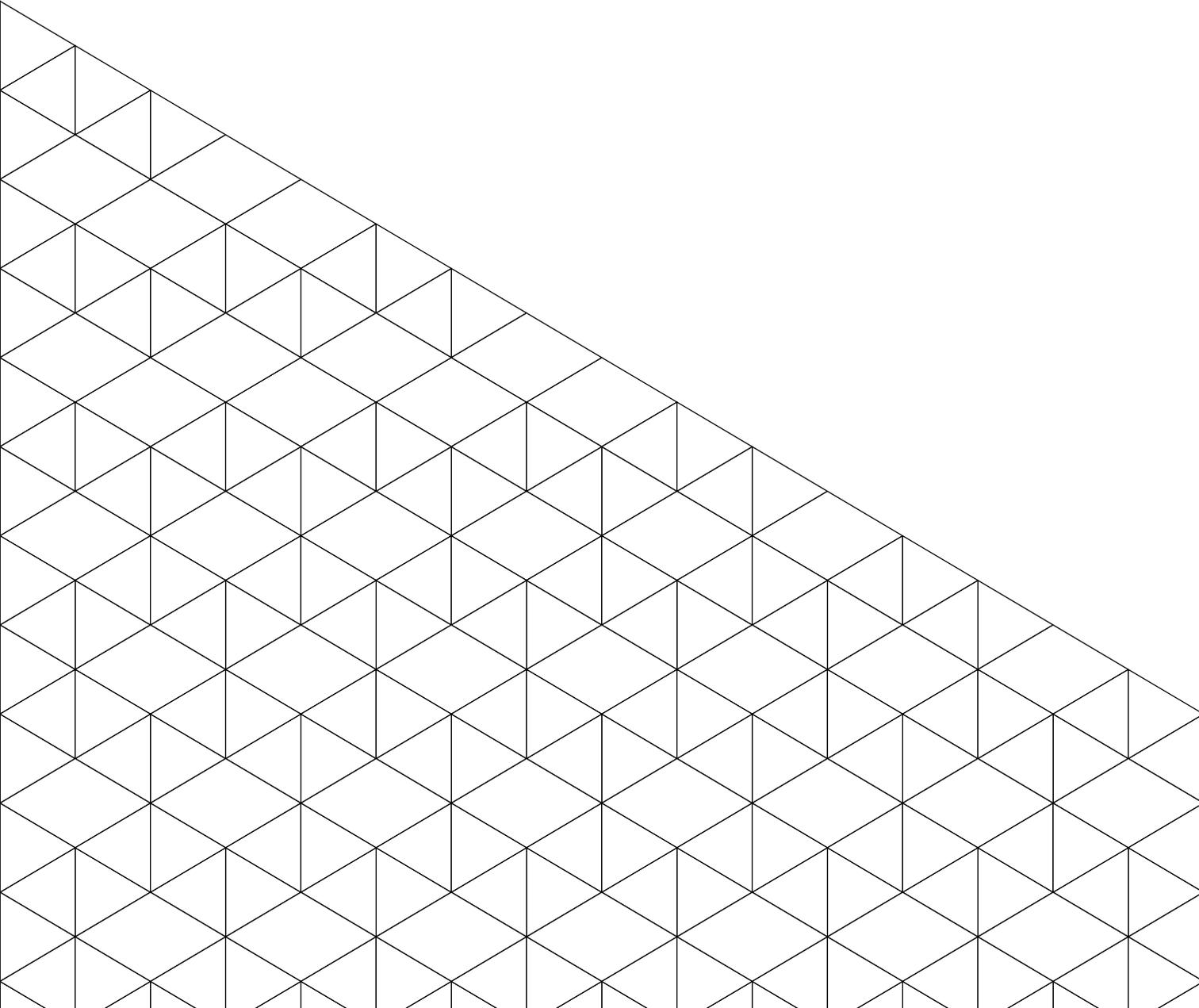*Art and design during and after the Covid-19 Period*

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BİLDİRİLER KİTABI

GÖRSEL İLETİŞİM TASARIMI

A Game-Based Tool For Freshmen Design Students During The Pandemic Distance Learning

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ABSTRACT

The emergence of the need for orientation since the past times led the universities to invent innovative ways to prepare their students for the activities and courses they will face. Hence, various types of orientation have been provided during history. However, today with the outbreak of the Covid-19 and the closure of the schools, most of the students are continuing their studies as distance learning. While this situation is very disappointing for all freshmen students who do not know the university's atmosphere, it is extremely disruptive, specifically for the design ones, which are passing tactile courses, demanding being held face to face. This ascertains the research's problem as a need for an interactive solution for the issue to lessen the consequent problems. Game-based orientation (GBO) is a tool, engaging the freshmen students as players with the provided data in it, which are the essentials for a novel student to know before entering the university. It allows the student to be dealt with the school services, Istanbul Technical University in this case, and use them in terms of the game's tasks. The scoring system, the ultimate certificate, the leaderboard leading them to prizes, and the game's non-linearity will attract the students to use GBO frequently to finish it and experience all the possible scenarios.

Keywords: Design Education, Game-Based Learning, Distance Learning, COVID-19

Pandemik Uzaktan Eğitim Sırasında Birinci Sınıf Tasarım Öğrencileri İçin Oyun Tabanlı Bir Araç

ÖZET

Geçmiş zamanlardan bu yana oryantasyon ihtiyacının ortaya çıkması, üniversitelerin öğrencilerini karşılaşacakları etkinlik ve kurslara hazırlamak için yenilikçi yollar bulmasına yol açtı. Bu nedenle, tarih boyunca çeşitli oryantasyon türleri sağlanmıştır. Ancak bugün Covid-19 salgını ve okulların kapanması ile öğrencilerin çoğu uzaktan eğitim olarak çalışmalarını sürdürmekte. Bu durum, üniversitenin atmosferini bilmeyen tüm birinci sınıf öğrencileri için çok hayal kırıklığı yaratırken, özellikle yüz yüze yapılmayı talep eden tasarım derslerinden geçen, tasarım öğrencileri için son derece yıkıcı. Söz konusu durum, araştırmanın problemini, ortaya çıkabilen sorunları azaltmak için etkileşimli bir çözüm ihtiyacı olarak, göz önüne getiriyor. Oyuna dayalı oryantasyon (GBO), birinci sınıf öğrencilerini yeni bir öğrencinin üniversiteye girmeden önce bilmesi gereken temel olan verilerle oyuncular olarak meşgul eden bir araçtır ve öğrencinin okul hizmetleriyle, İstanbul Teknik Üniversitesi özelinde, ilgilenmesini ve oyunun görevleri niteliğinde kullanmasını sağlar. Puanlama sistemi, nihai sertifika, onları ödüllere götüren liderlik tablosu ve oyunun doğrusal olmaması, öğrencileri GBO'yu bitirmek ve olası tüm senaryoları deneyimlemek için sık sık kullanmaya çekecektir.

Anahtar Kelimeler: Tasarım Eğitimi, Oyun Tabanlı Öğrenme, Uzaktan Eğitim, COVID-19

1.INTRODUCTION

Background

Going back in the literature, starting in the 1870s, familiarising the novel students entering from the school to the university during the initial weeks of the school with what is expecting them via the university orientations was always of great importance. These orientations may include both academic issues instanced as registration and personal ones such as socializing with people, domestic culture, and new services in the campus environment. (Fitz-Walter, Tjondronegoro, & Wyeth, 2012; Reason et al., 2006; Robinson, Burns, & Gaw, 1996; Taub & Komives, 1998; Watts, 2019). However, due to their passive nature consisting of sitting and listening to the tedious speakings introducing the school members and facilities or guided campus tours which are still in the following theme (Dennen et al., 2015), encouraging students to attend these events seems difficult (Fitz-Walter, Tjondronegoro, & Wyeth, 2012). In addition to traditional university orientations, with the emergence of online courses in higher education, a need for online student orientation (OSO) has been raised. Due to the possible loss feeling that the students may experience in the novel online learning environment and desocialization, which affects their interaction with classmates and their ultimate success in the course (Cho, 2012). Although, currently, students work and communicate easier with web-based tools, learning online is more different than working and playing online (Watts, 2019). Hence, the need for OSOs remains for the online courses.

Recently, since the global emergence of the Covid-19 outbreak, many studies have been conducted to investigate its impacts, the consequences, and related confinement periods of the pandemia, which have affected education to a large extent by the closure of the schools. A significant number of studies are evaluating the negative side effects of the new normal, distance learning, regarding different levels of education. According to the literature review, instructors and students suffer from mental health problems arising from e-learning, namely anxiety, depression, and concerns about their future education or career. These outcomes occur due to lack of internet connectivity, especially in digitally under-developed countries, unfavorable study environment at home, the lack of face-to-face

interaction and socialization with classmates or instructors, consequently the lack of motivation and enjoyment leading to missing of the real-time idea transmission (Adnan, 2020; Aristovnik et al., 2020; Cao et al., 2020; Hasan & Bao, 2020; Husky et al., 2020; Kapasia et al., 2020; Toquero, 2020; Wang et al., 2020). While the problems are similar to the previously mentioned online courses', according to Adnan (2020), there is a more significant concern about the students who are tactile learners, which as art and design students, are the focal point of this study. According to Dilmaç (2020), the art and design students tackle various troubles in their applied courses, despite their ease in managing distance learning technology due to their familiarity with the technology regarding their major. Based on the interviews conducted in the study, the participant students stated that these sort of practice courses need to be held face to face to have practical lessons with fun and with some tools in the workshops which don't exist at their home.

Additionally, the anxiety caused by the Covid-19 period also affects their motivation and creativity to produce artworks. However, suppose we add the depression level of the freshman students who start their university experience in the pandemic period with no feeling of being in the faculty, especially the art ones, with no practical introduction to the tools and techniques. In that case, there is a considerable gap, and the topic will need a more interactive solution to be solved.

Currently, almost all of the universities set video call meetings on various platforms such as Zoom as their orientation program, which are boring for the students to join. Seeking an innovative way to handle the situation, gamification, which refers to the use of game elements in the non-game contexts raising the engagement and motivation, seems to be a proper way (Fitz-Walter, Tjondronegoro, & Wyeth, 2012; Fitz-Walter et al., 2011). Hence, this study proposes a game-based tool for acquainting undergraduate students of the Faculty of Architecture of Istanbul Technical University with the facilities and spatial information of the campus and the artistic tools and techniques for school orientation in the current Covid-19 condition. However, to figure out the previous works, we conducted a broad literature review, presenting below.

Literature review

Regarding previous game-based orientations, Fitz-Walter, Tjondronegoro, and Wyeth (2012), designed and developed a gamified mobile application added to the university's existing application, encouraging the students during the first weeks of their university. They were supposed to enter some numbers, scanning QR codes, adding some friends to their contacts, and checking in some locations to explore the campus, collecting some items and information about the school's services in addition to getting used to the functions of the available application. There is a leaderboard showing the students with the highest levels based on their completed challenges. Dennen et al. (2015) also developed a similar team-based game with seven paths, each consisting of locations, QR codes, videos, and clues ending to letters which will be assembled leading to the final destination to familiarize the players with locations and services to replace an hour of a regular orientation. However, there are online orientations that are not in a game-based theme. Cho (2012) developed a web-based program integrated to Blackboard consisting of 4 modules developing the understanding of the students regarding online learning, solving technical issues using blackboard, and a survey part assessing their ability to use the online learning. Additionally, Watts (2019) created an OSO embedded in a course curriculum and studied its effects on the students. Virtual reality is also used in colleges and universities as a student orientation tool by Valenti, Lund, and Wang (2020), taking advantage of game engagement theory. Moreover, game-based orientations have been used in libraries as scavenger hunt or treasure hunt games. Giles (2015) developed a narrative-based game for the orientation of a library with a mysterious theme to find a stolen book by finding some clues. Additonally, Fusich et al. (2011)

created the game HML-IQ introducing the library and its resources and services to the students with weekly games and gaming nights.

Concerning the existing literature, the lack of any specific orientation game for art freshmen students introducing the related techniques and stuffs specifically based on the Faculty of Architecture of Istanbul Technical University led us to the conduction of the current study for the occurred new normal in the Covid-19 situation and even as a permanent orientation system for the next normal years.

2. METHOD

Project Rationale

Regarding the previously mentioned works, the most important part of designing an orientation program is to have a proper framework demonstrating the program's flow and the issues needed to be embedded in it. Hence, first of all, we prepared two modules consisting of the information which we want to transmit to a player as a freshman student in the proposed game-based tool. While the first module (Figure1) depicts the general information such as campus map, contact information, ITU educational online platforms, ITU social activities, and ITU profile, the second one (Figure 2) concentrates more on the specific technical requirements of the art students in the Taşkışla campus such as software and kinds of stuff they will need during their education.
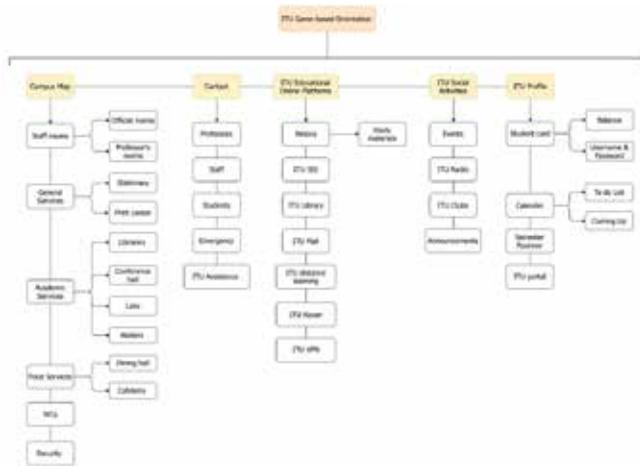

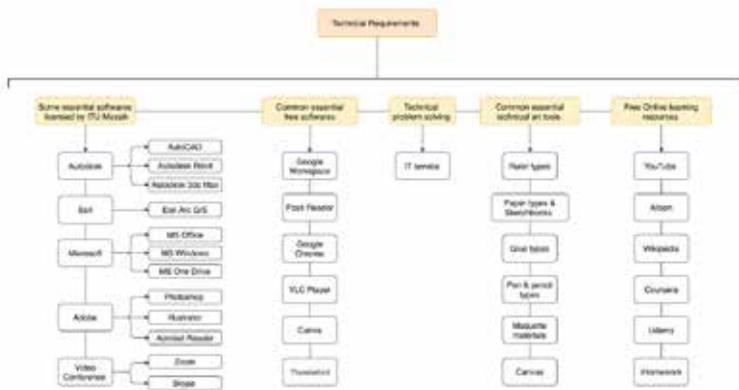*Figure1. Module 1, General Information Provided in the Game*

Figure 2. Module 2, Technical Requirements Provided in the Game

Game Design and Game Play

To be able to transmit this information to the students using the GBO, we prepared a scenario for the player to interactively be engaged with the data and learn them. The player in the role of a freshmen design student will enter the Taşkışla Campus and look for his/her coordinator for some course registration. After figuring the map of the campus to find the coordinator's room, the player will face plenty of tasks that they should do in real life in order to pass the levels. These tasks, like mini-games, require using the ITU services such as Ninova, Mail, etc., and wandering in the campus map in the game to find the right locations. Additionally, the required technical staff and software for an art student will be taught during the game. However, due to the non-linear nature of the game, the player can do the same task with fewer or more actions, which will affect his/her score on the leaderboard. At the end of the game, each player will get a certificate, and the best players on the leaderboard will get a prize. We demonstrated the game structure, including six elements proposed by Prensky (2001), in Table 1.

Game Element (from Prensky, 2001)	Manifestation in GBO
Rules	There is a non-linear storyline with various paths based on the player's selections.
Goals and Objectives	The final aim is to get the certificate by finishing the game and the prize based on the leaderboard. The objective is to familiarize the new design students with the campus, staff, and facilities and the specific artistic issues along with the game.
Outcomes and Feedback	Feedback comes via successfully finishing each task and facing the next one.
Conflict, Competition, or Challenge	Although everyone who finishes gets a certificate, there is an action number challenge, in which you should do the task with the least possible actions to raise your place on the leaderboard.
Interaction	In the current online format, the interaction is at the leaderboard level; however, after Covid-19, the game can be played in-person by going to the university, scanning the QR codes in the locations, and interacting with each other.
Representation or Story	The game is about a freshman design student who is not familiar with the school.

Table 1. Game Structure

Additionally, for game development, the Twine open-source platform was used for developing the game without requiring almost any coding skills in a storytelling theme (Twine, 2020). This platform lets us have an HTML-based game playable in any browser and any device, with an audiovisual theme (Figure 3).

Figure 3. Sample of Game Screen (Mimarlık Fakültesi, 2021)

3.CONCLUSION

This paper discusses the need for an interactive orientation for the freshmen design students, specifically in the current Covid-19 situation, in which the schools are closed, and the new students start their university with no previous point of view to what is expecting them. The existing orientations designed by the schools are all in the video call meeting or pre-recorded video format, not attracting the students to join or watch. Hence, GBO can be a way to fill this gap that this generation faced. The interactive non-linear story-telling nature of this game will immerse the students in it and will familiarize them with the campus, its facilities, and all the essential services which any student should know and be able to use by giving some tasks to them to proceed in the game. The scoring system and the provided certificate will attract them more to play it. However, as future work, the game can be prepared for all students as a freshman, sophomore, junior, and senior with their related course contents. In this way, the students can have an overall look toward their every year in the initial weeks of it. The game also can always be updated and used as an announcement system for the occurring events in that time. As a more developed version of it, the game can be played in-person by simply adding QR codes to the intended locations in the campus to be able to be used as a physical game after the Covid-19, to introduce the school better to the students.

REFERENCES

- Adnan, M. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. Journal of Pedagogical Research, 1(2), 45–51. https://doi.org/10.33902/jpsp.2020261309
- Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. Sustainability (Switzerland), 12(20), 1–34. https://doi.org/10.3390/su12208438

- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Research, 287(March), 112934. https://doi.org/10.1016/j.psychres.2020.112934

- Cho, M. H. (2012). Online student orientation in higher education: A developmental study. Educational Technology Research and Development, 60(6), 1051-1069.

- Cho, M. H. (2012). Online student orientation in higher education: A developmental study. Educational Technology Research and Development, 60(6), 1051-1069.

- Dennen, V. P., Hao, S., Lee, S., & Lim, T. (2015). Virtual Enhancement to Physical Spaces: A QR code based orientation game. The Journal of Emerging Learning Design, 2(1).

- Dilmaç, S. (2020). Students' Opinions about the Distance Education to Art and Design Courses in the Pandemic Process. World Journal of Education, 10(3), 113. https://doi.org/10.5430/wje.v10n3p113

- Fitz-Walter, Z., Tjondronegoro, D., & Wyeth, P. (2011, November). Orientation passport: using gamification to engage university students. In Proceedings of the 23rd Australian computer-human interaction conference (pp. 122-125).

- Fitz-Walter, Z., Tjondronegoro, D., & Wyeth, P. (2012, November). A gamified mobile application for engaging new students at university orientation. In Proceedings of the 24th Australian Computer-Human Interaction Conference (pp. 138-141).

- Fusich, M., Dinscore, A., Smith, K., & Vang, V. (2011). HML-IQ: Fresno State's online library orientation game.

- Giles, K. (2015). No budget, no experience, no problem: Creating a library orientation game for freshman engineering majors. The Journal of Academic Librarianship, 41(2), 170-177.

- Hasan, N., & Bao, Y. (2020). Impact of "e-Learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss." Children and Youth Services Review, 118(July), 105355. https://doi.org/10.1016/j.childyouth.2020.105355

- Husky, M. M., Kovess-Masfety, V., & Swendsen, J. D. (2020). Stress and anxiety among university students in France during Covid-19 mandatory confinement. Comprehensive Psychiatry, 102, 152191. https://doi.org/10.1016/j.comppsych.2020.152191

- Kapasia, N., Paul, P., Roy, A., Saha, J., Zaveri, A., Mallick, R., Barman, B., Das, P., & Chouhan, P. (2020). Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India. Children and Youth Services Review, 116(June), 105194. https://doi.org/10.1016/j.childyouth.2020.105194

- Mimarlık Fakültesi. (2021). [Image]. Retrieved 1 March 2021, from https://mim.itu.edu.tr/blog/2015/08/20/ek-derslikler/3-2/.

- Prensky, M. (2001). Digital game-based learning. New York, NY: McGraw-Hill.

- Reason, R. D., Terenzini, P. T., & Domingo, R. J. (2006). First things first: Developing academic competence in the first year of college. Research in higher education, 47(2), 149-175.

- Robinson, D. A., Burns, C. F., & Gaw, K. F. (1996). Orientation programs: A foundation for student learning and success. New Directions for Student Services, 1996(75), 55-68.

- Taub, D. J., & Komives, S. R. (1998). A comprehensive graduate orientation program: Practicing what we preach. Journal of College Student Development, 39, 394-398.

- Toquero, C. M. (2020). Challenges and Opportunities for Higher Education amid the COVID-19 Pandemic: The Philippine Context. Pedagogical Research, 5(4), em0063. https://doi.org/10.29333/pr/7947

- Twine (2020). An open-source tool for telling interactive, nonlinear stories. Retrieved 10 October 2020, from http://twinery.org/

- Valenti, S., Lund, B., & Wang, T. (2020). Virtual Reality as a Tool for Student Orientation in Distance Education Programs. Information Technology and Libraries, 39(2).

- Wang, Z. H., Yang, H. L., Yang, Y. Q., Liu, D., Li, Z. H., Zhang, X. R., Zhang, Y. J., Shen, D., Chen, P. L., Song, W. Q., Wang, X. M., Wu, X. B., Yang, X. F., & Mao, C. (2020). Prevalence of anxiety and depression symptom, and the demands for psychological knowledge and interventions in college students during COVID-19 epidemic: A large cross-sectional study. Journal of Affective Disorders, 275(1023), 188–193. https://doi.org/10.1016/j.jad.2020.06.034

- Watts, J. (2019). Assessing an online student orientation: Impacts on retention, satisfaction, and student learning. Technical Communication Quarterly, 28(3), 254-270.